

Day	Date	Period	Class
Mathematics	Primary 4	Second Term	Education 2.0
Unit	9: Fractions.		
Concept	1: Composing and decomposing fractions.		
Lesson Name	9-1 Let's build up		
Material For Lesson	<ul style="list-style-type: none"> <li>- Chart paper or poster board</li> <li>- markers</li> </ul>		
Vocabulary Terms	Compose – denominator – fraction – numerator – unit fraction		
Learning Objectives	<ul style="list-style-type: none"> <li>- Students will define unit fractions.</li> <li>- Students will identify unit fractions.</li> <li>- Students will compose other fractions with unit fractions.</li> </ul>		
Common Misconceptions And Errors	<ul style="list-style-type: none"> <li>• Students may try to partition a whole into unequal shares. For example, the student may identify one-fourth as 1 of 4 parts, rather than 1 of 4 equal parts.</li> <li>• Students may believe that composing fractions is limited to adding up to a whole and not be able to compose fractions less than or greater than one whole.</li> <li>• Students may not equate composing fractions with addition.</li> <li>• Students may struggle to understand that a fraction is composed of individual unit fractions added together.</li> </ul>		
Opportunities for formative Assessments	Identify the Unit Fraction, Food Fraction Fun, Practice, Check Your Understanding		

Day	Date	Period	Class
Mathematics	Primary 4	Second Term	Education 2.0
Unit	9: Fractions.		
Concept	1: Composing and decomposing fractions.		
Lesson Name	9-2 Break it down		
Material For Lesson	<ul style="list-style-type: none"> <li>- Chart paper or poster board</li> <li>- markers</li> </ul>		
Vocabulary Terms	Compose – proper fraction		
Learning Objectives	<ul style="list-style-type: none"> <li>- Students will decompose other fractions with unit fractions.</li> <li>- Students will define unit fractions.</li> </ul>		
Common Misconceptions And Errors	<ul style="list-style-type: none"> <li>• Students may struggle to understand that a fraction is composed of individual unit fractions added together.</li> <li>• Students may not recognize that unit fractions cannot be decomposed. They can only be combined into larger fractions.</li> </ul>		
Opportunities for formative Assessments	Decompose It, Food Fraction Fun, Practice, Check Your Understanding		

Day	Date	Period	Class
Mathematics	Primary 4	Second Term	Education 2.0
Unit	9: Fractions.		
Concept	1: Composing and decomposing fractions.		
Lesson Name	9-3 Break it down again		
Material For Lesson	<ul style="list-style-type: none"> <li>- Chart paper or poster board</li> <li>- markers</li> </ul>		
Vocabulary Terms	Compose – decompose - unit fraction - whole		
Learning Objectives	<ul style="list-style-type: none"> <li>- Students will represent fractions with repeated addition of unit and other fractions.</li> <li>- Students will represent fractions with subtractions of unit and other fractions.</li> </ul>		
Common Misconceptions And Errors	<ul style="list-style-type: none"> <li>• Students may believe that fractions can be composed from or decomposed into unit fractions exclusively. However, they can be decomposed in many different ways.</li> </ul>		
Opportunities for formative Assessments	Race to the Finish Line, Many Ways to Break It Down, Sharing Popcorn, Practice, Check Your Understanding		

Day	Date	Period	Class
Mathematics	Primary 4	Second Term	Education 2.0
Unit	9: Fractions.		
Concept	1: Composing and decomposing fractions.		
Lesson Name	9-4 All mixed up		
Material For Lesson	<ul style="list-style-type: none"> <li>Fraction Anchor Chart</li> </ul>		
Vocabulary Terms	Equivalent – denominator – improper fraction – numerator – proper fraction – mixed number		
Learning Objectives	<ul style="list-style-type: none"> <li>Students will define mixed numbers.</li> <li>Students will define improper fractions.</li> <li>Students will explain how mixed numbers and improper fractions relate to unit fractions.</li> </ul>		
Common Misconceptions And Errors	<ul style="list-style-type: none"> <li>Students often think fractions must be less than 1. When confronted with an improper fraction, some students may not recognize it as a fraction.</li> <li>Students sometimes try to simply flip the numerator and denominator of an improper fraction to make it more familiar.</li> <li>Students may not recognize that an improper fraction requires more than one whole that is the same size, same shape, and divided into the same number of parts.</li> </ul>		
Opportunities for formative Assessments	Error Analysis, Mixed to Improper, Food Fraction Fun, Practice, Check Your Understanding		

Day	Date	Period	Class
Mathematics	Primary 4	Second Term	Education 2.0
Unit	9: Fractions.		
Concept	1: Composing and decomposing fractions.		
Lesson Name	9-5 Pieces from the whole		
Material For Lesson	<ul style="list-style-type: none"> <li>No additional materials needed</li> </ul>		
Vocabulary Terms	Review vocabulary as needed		
Learning Objectives	<ul style="list-style-type: none"> <li>Students will add fractions and whole numbers.</li> <li>Students will subtract fractions and whole numbers.</li> </ul>		
Common Misconceptions And Errors	<ul style="list-style-type: none"> <li>Students may struggle to understand and demonstrate that the proper fraction <math>\frac{b}{b}</math> is the same as 1 whole.</li> <li>When adding and subtracting like fractions, students may add the numerators and the denominators instead of keeping the denominators the same.</li> </ul>		
Opportunities for formative Assessments	Add Them Up, Break Them Down Party Planning, Practice, Check Yo Understanding		

Day	Date	Period	Class
Mathematics	Primary 4	Second Term	Education 2.0
Unit	9: Fractions.		
Concept	1: Composing and decomposing fractions.		
Lesson Name	9-6 adding mixed numbers.		
Material For Lesson	<ul style="list-style-type: none"> <li>• Crayons or colored pencils (2 different colors per student)</li> </ul>		
Vocabulary Terms	Mixed numbers		
Learning Objectives	- Students will add mixed numbers with like denominators.		
Common Misconceptions And Errors	<ul style="list-style-type: none"> <li>• Students may struggle to convert their answers into a mixed number (for example, <math>3\frac{4}{3} = 4\frac{1}{3}</math>).</li> <li>• Students may add or otherwise change the denominator when adding.</li> </ul>		
Opportunities for formative Assessments	Collecting Pineapple Juice, Mixed Together, Create Your Problem, Practice, Check Your Understanding		

Day	Date	Period	Class
Mathematics	Primary 4	Second Term	Education 2.0
Unit	9: Fractions.		
Concept	1: Composing and decomposing fractions.		
Lesson Name	9-7 subtracting mixed numbers.		
Material For Lesson	<ul style="list-style-type: none"> <li>• Crayons or colored pencils (1 per student)</li> </ul>		
Vocabulary Terms	Difference – minuend – mixed numbers – subtrahend.		
Learning Objectives	- Students will subtract mixed numbers with like denominators.		
Common Misconceptions And Errors	<ul style="list-style-type: none"> <li>• Students often struggle with regrouping mixed fractions when subtracting.</li> </ul>		
Opportunities for formative Assessments	Error Analysis, Mixed Apart, Writing About Math, Practice, Check Your Understanding		

Day	Date	Period	Class
Mathematics	Primary 4	Second Term	Education 2.0
Unit	9: Fractions.		
Concept	2: Comparing fractions.		
Lesson Name	9-8 like denominators and numerators		
Material For Lesson	<ul style="list-style-type: none"> <li>Fraction Anchor Chart</li> </ul>		
Vocabulary Terms	Like denominator – denominator – numerator - order		
Learning Objectives	<ul style="list-style-type: none"> <li>Students will compare and order fractions with like denominators.</li> <li>Students will compare and order fractions with like numerators.</li> </ul>		
Common Misconceptions And Errors	<ul style="list-style-type: none"> <li>Students may not understand that when comparing fractions with like denominators, the fraction with the larger numerator is greater.</li> <li>Students may not understand that when comparing fractions with like numerators, the fraction with the smaller denominator is greater.</li> </ul>		
Opportunities for formative Assessments	Fractional Candy Bars, Comparing Fractions with Like Denominators, Comparing Fractions with Like Numerators, Top Heavy, Practice, Check Your Understanding		



Day	Date	Period	Class
Mathematics	Primary 4	Second Term	Education 2.0
Unit	9: Fractions.		
Concept	2: Comparing fractions.		
Lesson Name	9-9 class $\frac{1}{2}$ full or $\frac{2}{4}$ empty?		
Material For Lesson	<ul style="list-style-type: none"> <li>No additional materials needed</li> </ul>		
Vocabulary Terms	equivalence		
Learning Objectives	- Students will use visual models to identify equivalent fractions.		
Common Misconceptions And Errors	<ul style="list-style-type: none"> <li>Students may believe that one half of a circle is the same as a one-half of a square, mistakenly thinking the size of the whole does not matter.</li> <li>Students may think that if the denominators are different, the fractions cannot be equivalent.</li> </ul>		
Opportunities for formative Assessments	Who Ate More?, What Is Equivalent?, Pizza Contest, Practice, Check Your Understanding		

Day	Date	Period	Class
<b>Mathematics</b>	<b>Primary 4</b>	<b>Second Term</b>	<b>Education 2.0</b>
<b>Unit</b>	<b>9: Fractions.</b>		
<b>Concept</b>	<b>2: Comparing fractions.</b>		
<b>Lesson Name</b>	<b>9-10 Same fractions and different day.</b>		
<b>Material For Lesson</b>	<ul style="list-style-type: none"> <li>• Large copy of the fraction wall (See the Unit 9 Lesson 10 Fraction Wall at the end of this volume.)</li> <li>• Students' domino sets from Unit 9 Lesson 2</li> </ul>		
<b>Vocabulary Terms</b>	Equivalent		
<b>Learning Objectives</b>	<ul style="list-style-type: none"> <li>- Students will use visual models and multiples to generate equivalent fractions.</li> <li>- Students will explain what makes two fractions equivalent.</li> </ul>		
<b>Common Misconceptions And Errors</b>	<ul style="list-style-type: none"> <li>• Students sometimes think that if the denominators are different, the fractions cannot be equal.</li> </ul>		
<b>Opportunities for formative Assessments</b>	Equal Sets, Fraction Wall, Recipe Trouble, Practice, Check Your Understanding		

Day	Date	Period	Class
Mathematics	Primary 4	Second Term	Education 2.0
Unit	9: Fractions.		
Concept	2: Comparing fractions.		
Lesson Name	9-11 benchmark fraction		
Material For Lesson	<ul style="list-style-type: none"> <li>Fraction Anchor Chart</li> <li>Unit 9 Lesson 11 Mixed Up Fraction Cards (Photocopy 1 set per pair of students. See Blackline Master at the end of this volume.)</li> </ul>		
Vocabulary Terms	benchmark fraction - equivalence		
Learning Objectives	<ul style="list-style-type: none"> <li>Students will identify benchmark fractions.</li> <li>Students will generate fractions equivalent to benchmark fractions.</li> </ul>		
Common Misconceptions And Errors	<ul style="list-style-type: none"> <li>Students often believe that the larger the denominator the closer to a benchmark of 1 (for example, they may think <math>\frac{1}{4}</math> is closer to 1 than <math>\frac{1}{2}</math> because 4 is greater than 2).</li> </ul>		
Opportunities for formative Assessments	Walking Down the Path, Continuing Down the Path, Writing About Math, Practice, Check Your Understanding		

Day	Date	Period	Class
Mathematics	Primary 4	Second Term	Education 2.0
Unit	9: Fractions.		
Concept	2: Comparing fractions.		
Lesson Name	9-12 half or whole?		
Material For Lesson	<ul style="list-style-type: none"> <li>• Paper clip for Spin to Win</li> <li>• Pencil for Spin to Win</li> </ul>		
Vocabulary Terms	Compare – equivalent - benchmark		
Learning Objectives	- Students will compare fractions to a benchmark fractions.		
Common Misconceptions And Errors	<ul style="list-style-type: none"> <li>• Students may not be able to find equivalent fractions for benchmarks, so comparing a fraction to a benchmark may be difficult.</li> <li>• Students may be confused that even though whole numbers increase in size as we count (<math>1 &lt; 2 &lt; 3 &lt; 4</math>), fractions do not increase in size when the denominator does (<math>\frac{1}{1} &gt; \frac{1}{2} &gt; \frac{1}{3} &gt; \frac{1}{4}</math>).</li> </ul>		
Opportunities for formative Assessments	Error Analysis, Use a Benchmark, Writing About Math, Practice, Check Your Understanding		

Day	Date	Period	Class
Mathematics	Primary 4	Second Term	Education 2.0
Unit	9: Fractions.		
Concept	3: multiplication and fractions		
Lesson Name	9-13 fractions and the identity property		
Material For Lesson	<ul style="list-style-type: none"> <li>Digit Cards 0–9 (1 set per student)</li> </ul>		
Vocabulary Terms	Review vocabulary as needed		
Learning Objectives	- Students will explain use the identity property of multiplication to generate equivalent fractions		
Common Misconceptions And Errors	<ul style="list-style-type: none"> <li>Students often believe that performing an operation always changes the value of the original quantity, even when multiplying or dividing by 1 with whole numbers and fractions.</li> <li>Students may not understand that any fraction in <math>\frac{b}{b}</math> form is equal to 1.</li> </ul>		
Opportunities for formative Assessments	From Parts to a Whole, Riddle Me This, Practice, Check Your Understanding		

Day	Date	Period	Class
Mathematics	Primary 4	Second Term	Education 2.0
Unit	9: Fractions.		
Concept	3: multiplication and fractions		
Lesson Name	9-14 different numbers , same value		
Material For Lesson	<ul style="list-style-type: none"> <li>No additional materials needed</li> </ul>		
Vocabulary Terms	Equivalence – factor – simplest form – simplify		
Learning Objectives	- Students will multiply and divide to generate equivalent fractions		
Common Misconceptions And Errors	<ul style="list-style-type: none"> <li>Students often believe that performing an operation always changes the value of the original quantity, even when multiplying or dividing by 1 with whole numbers and fractions.</li> <li>Students may not understand that any fraction in <math>\frac{b}{b}</math> form is equal to 1.</li> </ul>		
Opportunities for formative Assessments	Error Analysis, Multiplying to Create Equivalent Fractions, Dividing to Create Equivalent Fractions, Omar's Om Ali, Practice, Check Your Understanding		

Day	Date	Period	Class
Mathematics	Primary 4	Second Term	Education 2.0
Unit	9: Fractions.		
Concept	3: multiplication and fractions		
Lesson Name	9-15 many missing multiples		
Material For Lesson	<ul style="list-style-type: none"> <li>No additional materials needed</li> </ul>		
Vocabulary Terms	Equivalence – factor – multiple		
Learning Objectives	- Students will explain the relationship between multiples and equivalent fractions		
Common Misconceptions And Errors	<ul style="list-style-type: none"> <li>Students may not increase the numerator and the denominator by the same factor or only increase or decrease the denominator, not understanding that equivalence is about representing the same quantity.</li> </ul>		
Opportunities for formative Assessments	Which Is Not a Multiple?, What Is the Missing Multiple, Nadia's Cake, Practice, Check Your Understanding		

Day	Date	Period	Class
Mathematics	Primary 4	Second Term	Education 2.0
Unit	9: Fractions.		
Concept	3: multiplication and fractions		
Lesson Name	9-16 multiplying by a whole		
Material For Lesson	<ul style="list-style-type: none"> <li>Unit 9 Lesson 16 Puzzle Mania Cards (Photocopy the Blackline Master at the end of this volume.)</li> </ul>		
Vocabulary Terms	Compose – decompose – factor – product – unit fraction		
Learning Objectives	- Students will multiply a fraction by a whole number		
Common Misconceptions And Errors	<ul style="list-style-type: none"> <li>When multiplying fractions by a whole number, students may multiply the numerator and denominator (similar to multiplying to make equivalent fractions) rather than recognizing that a whole number, <math>x</math>, is represented in a fractional way as <math>\frac{x}{1}</math>.</li> </ul>		
Opportunities for formative Assessments	Same Answer, Different Operation, Writing About Math, Practice, Check Your Understanding		



Day	Date	Period	Class
<b>Mathematics</b>	<b>Primary 4</b>	<b>Second Term</b>	<b>Education 2.0</b>
<b>Unit</b>	<b>9: Fractions.</b>		
<b>Concept</b>	<b>3: multiplication and fractions</b>		
<b>Lesson Name</b>	<b>9-17 real world fraction connection</b>		
<b>Material For Lesson</b>	<ul style="list-style-type: none"> <li>• Steps for Solving Problems Anchor Chart</li> <li>• Unit 9 Lesson 17 Find Your Match Cards (1 card per student) (Photocopy the Blackline Master at the end of this volume.)</li> </ul>		
<b>Vocabulary Terms</b>	Review concept vocabulary as needed		
<b>Learning Objectives</b>	- Students will solve story problems involving fractions		
<b>Common Misconceptions And Errors</b>	<ul style="list-style-type: none"> <li>• When adding fractions, students may generalize the procedure for multiplication of fractions by adding the numerators and adding the denominators.</li> </ul>		
<b>Opportunities for formative Assessments</b>	Fraction Story Problems, Create Your Own Problem, Practice, Check Your Understanding		